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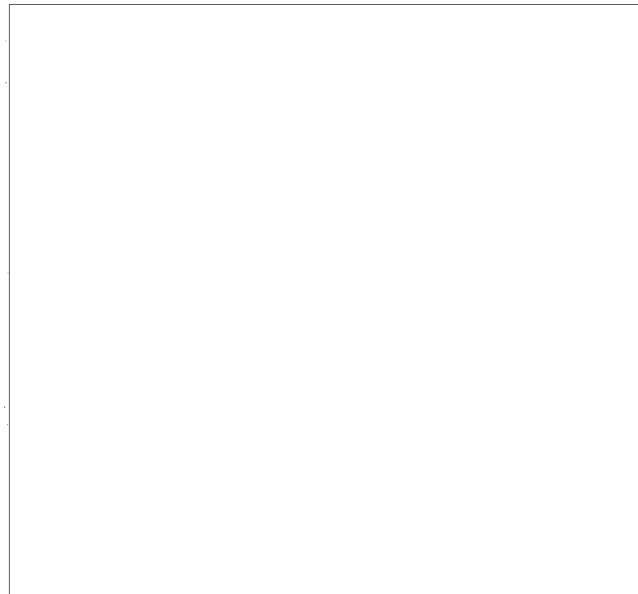
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COMIREX MAPPING, CHARTING AND GEODESY WORKING GROUP

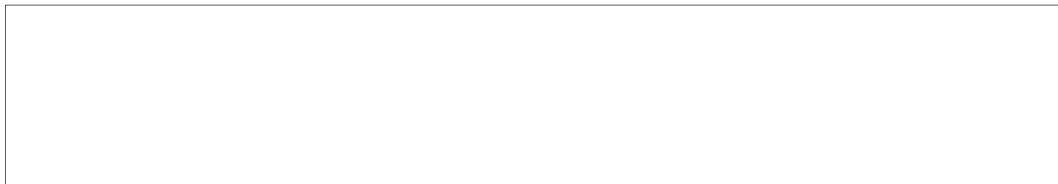
Minutes of Meeting Held in Room 5B2830  
Pentagon  
1330 - 1600, 19 February 1968

USGS  
PLANS  
FOR  
RE-TOY  
CENTER.

PRESIDING



CONSULTANTS PRESENT



Purpose of Meeting

1. The purpose of the meeting was announced as a briefing meeting to acquaint members with new activities or particular applications involving special data, to review progress in current collection programs in meeting MC&G requirements, and to indicate progress of the NRO toward meeting the worldwide positioning requirement.

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Progress of Current Collection Programs

2. [ ] from AMS briefed on progress with the following highlights:

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a. Regarding KH-4 panoramic coverage, Mission 1102 provided 90% cloud-free coverage of approximately 2 million square miles gross and 300,000 square miles of new (net) coverage toward MCG requirements; similarly, Mission 1045, completed 7 February, yielded coverage 90% cloud-free for 2,500,000 square miles gross and 200,000 square miles new (net) coverage. As of 15 February 1968, the net coverage of KH-4 panoramic photography 90% cloud-free totals 16 million square miles toward the present total requirement area of 24.1 million square miles, leaving a remainder of approximately 8 million square miles.

b. With regard to coverage of 3-inch frame photography (primarily KH-4 coverage), there was presently on hand photography covering 11,420,000 square miles toward meeting the generally worldwide requirement for 3-inch frame photography.

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[ ] It was noted that the requirement index for the KH-4 3-inch frame camera, including regions grouped for coverage by fiscal year, had not been presented previously. However, the need for this coverage generally worldwide, because of its improvement over the 1½-inch frame camera for both mapping and geodetic applications, had previously been discussed and stated in documents reviewed in the Working Group.

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Use of Special Data by NAVOCEANO

3. [ ] of NAVOCEANO presented a briefing for the information of the group including the following:

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a. Items incorporating TKH and SI data as follows:

(1) Hydrographic Chart of Novaya Zemlya, which used data from the AMS 1:250,000 photo maps made from TKH data.

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(2) 1:50,000 Hydrographic Chart of Velekaya Kema, for which NAVOCEANO had set up models from satellite photography using the M-2 plotter to draw 50-meter topographv.

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b. Several products produced from KH-4 photography, including the 1:50,000 Hydrographic Chart of the Yalu River delta using KH-4 in the M-2 plotter, a 1:75,000 chart along the east coast of China which was based on an ACIC 1:250,000 MUM and a large-scale product at 1:12,500 also along the China east coast.

c. A total of approximately 55 charts have been produced by the Hydrographic Office utilizing TKH data at the scales of 1:12,500 to 1:250,000. In addition, a number of combat charts have been produced for which compilation covering the land area was obtained from AMS.

Plans for Use of TKH Data by US Geological Survey

4. [ ] of the Topographic Division of the US Geological Survey from the Department of the Interior, presented plans for developing a capability to utilize TKH data and described the USGS production plans with highlights as follows:

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a. The USGS is working toward a 1 July opening date for a secure MC&G facility at Reston, Virginia, with 23,000 square feet of working space. The building is being adapted for M-4 plotters with respect to ceiling height and has features that will permit isolation of vibration and proper air handling. The USGS had received extensive assistance from [ ] of the CIA with respect to security aspects of the new facility.

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b. It is intended that 50 personnel will be ready to occupy the new facilities as of 1 July. Presently, the Department of the Interior has 100 billets total and 50 of these are set aside for the new operational facility at Reston. Personnel are being taken from present GS roles, and they are now looking for 35 new personnel for assignment to this facility. Key people to work in this facility have already been oriented or trained at AMS and ACIC. Present plans call for about 80 operational people in the new facility in the second year and in 5 years, 115 to 120 personnel.

c. All equipment needed for the Reston facility is either on hand or being purchased. The USGS does not plan to buy a Gamma rectifier, but has made arrangements with DIA and Army to have rectification work done at AMS.

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d. USGS plans for use of KH-4 data pertain to the conterminous United States. Initial production will embrace revision of the 1:250,000 maps of the US, extending over an 8-year period. It is planned that 60 sheets be revised the first year and 80 the following year. In addition, it is planned to update about 600 1:24,000 maps per year from the KH-4 photography after the first 4 or 5-year period. This work would comprise making manuscript corrections and sending the compilation for finishing purposes to the regional offices of USGS. Generally, the equipment that will be used in the first few years will be M-4s and B-8s. Some discussions have been carried on with the Department of Agriculture and the Coast and Geodetic Survey relative to work that may also be done at Reston.

e. USGS has obtained from AMS indexing activity the existing KH-4 coverage in the conterminous US. This coverage amounts to roughly 65% of the US area and has been related to specific 1:250,000 map areas. The USGS has also requested DIA to provide information and means for providing high altitude U-2 6-inch focal length photography for revision purposes. This should be useful in filling holes in KH-4 photography coverage.

f.  presented the USGS general requirements for KH-4 coverage in the US. It was indicated that the NRO test photography which accounts for most of the coverage presently over the ZI would provide part of the data needed, but probably could not be expected to be responsive to the USGS revision programs. It was indicated that the GS wanted to plan their revision work such that the photography used would be no older than 3 years and there are some limiting specifications which would be made available. Generally, the GS plans to divide the US into 6 regions by priorities, and would like to have this covered over a period of 5 to 8 years. Discussion resolved that careful planning with NRO should try to obtain complete coverage in the areas that GS planned to revise but on the other hand, should recognize the collection in advance should respect the 3-year outdated aspect and generally be guided by the USGS planned program for utilization.

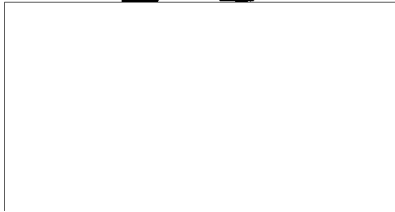
 indicated that discussion with  had resolved that there would be a COMIREX briefing on the USGS use of special data, and a memo would be forwarded for USIB review covering this use of special data.

#### Special Positioning Applications of KH-4 Data by USAF

5.  of USAF, described a 1970 project and 3 current projects involving special positioning applications of the KH-4 data with highlights as follows:

a. As a 1970 project in support of an Air Force tactical non-nuclear strike capability having a CEP of 200 feet, planning was underway to use new

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techniques in a cooperative effort between field and stateside capability. The F-111s planned for this capability are presently expected to have radar sensing equipment which will require accurate horizontal position and accurate relationship of features. Concept-wise, it is envisioned that geographic data base, probably an ortho-photo presentation with spot elevations having the geometric fidelity of Class A 1:50,000 scale maps would serve the purpose. This would be produced in the ZI and made available to the theater. Theater RECCE would then spot the target which could be transferred to the geographic data base for the strike operation. It was thought that this concept could provide for servicing strike capability with both position and a data base in a 15-30 day time period. When the geographic data base is available in the theater for the local area in concern, it would be used immediately.

b. As a current project identified as [ ] positions have been located by ACIC for targets in the North Viet Nam region, in order to enable the effective use of MSQ-78 or 81 radar for guidance. It was necessary for ACIC to produce a photogrammetric extension base from the several KH-4 flights over the area extending to the well-controlled areas of South Viet Nam and over the target areas in North Viet Nam which were not located correctly with respect to the radar site. PACAF had furnished 31 targets identified precisely on RECCE photos to ACIC. These had been transferred to KH-4 position base and accurate coordinates wired back to Viet Nam [ ] indicated that this process had reduced inaccuracies of targets from around 635 feet to an evaluated accuracy of 165 feet CEP. This project was completed and the STRIKE Forces were using this data.

c. Project titled [ ] directly comparable to [ ] described above had been undertaken as of the first of February for critical areas in North Korea. Only a limited amount of KH-4 photography existed. This project had originated with PACAF and the objective was to have a photogrammetric position base established for North Viet Nam by 15 March. At that time ACIC should be in a position to provide accurate positions of 8 targets in 1 day or 50 targets in 3 or 4 days. ACIC had asked and received excellent cooperation from AMS in providing control and evaluations in Korea and AFNIN had expressed appreciation to Army, ACSI for this effort. With respect to this geographic area, it was known that major parts of North Korea were accurately located with respect to South Korean control, but it was necessary to produce the position base to be prepared for weak areas near the border and other areas that may be found.

d. Project [ ] will undertake to complete target area coverage of North Viet Nam as started by [ ] described above. This was planned in the next 30-60 days.

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[redacted]

e. [redacted] indicated that the data base that had been prepared for Viet Nam and for Korea could be expected to meet positioning requirements in the next several years. He further mentioned that facsimile transmission from the ZI to the theater could provide improved service. He had been requested to present a briefing of this nature to the COMIREX Committee, and this was planned in the next 60-75 days.

#### NRO Progress Toward Meeting Worldwide Positioning Requirement

6. [redacted] referred to a memo of October 1967 from [redacted] to the Director, NRO Staff, asking that NRO provide various alternative proposals to meet the worldwide positioning requirement.

Responding to [redacted] requests, [redacted] of NRO reported on the progress of his office toward meeting the USIB worldwide positioning requirement of 450 feet horizontal and 300 feet vertical, 90 % assurance.

It was explained that the NRO was studying several approaches, some of which pertain to modifying existing systems on hand, and some pertaining to new systems in development. His office was compiling cost data on various modifications to existing systems, but mentioned that accomplishment of any changes during FY 69 would present problems because of the extremely tight budget. In essence, most of the existing systems have already been purchased, and any changes to these existing systems would have to come from current programs. His office was presently scheduled to brief [redacted] concerning various proposals in the near future. Following this action, alternatives would be indicated to [redacted]

[redacted] raised a question as to whether the positioning requirement of 450 feet horizontal and 300 feet vertical, 90% assurance, was impacted by the change in Air Force plans regarding the use of the Mark 17 re-entry vehicle. [redacted] mentioned that both the Mark 11A and 12 required comparable accuracies to the Mark 17, but recognized it would be desirable to update the requirements statement in this regard. [redacted] further mentioned that consideration was being given in DoD as to whether there may be a valid long-range requirement for reducing the position requirement to 210 feet horizontal and 115 feet vertical, 90% assurance. These figures have been determined to be feasible geodetic and geophysical objectives. He mentioned that an effort was being made to arrive at a statement that would express the probability of such a change in the worldwide positioning requirement.

#### Other Business

7. [redacted] raised a question as to what action was being taken with respect to reviewing the substantive information that had been distributed

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for the information of Working Group members for the purpose of defining future MC&G requirements. [ ] noted that the discussion of the previous Working Group meeting had concluded that he, as Chairman of the MCGWG, would discuss with [ ] the detail he felt was needed in a COMIREX paper. [ ] indicated that his discussion with [ ] cited changes that his office would like to see in format of the information to be presented, possibly including graphics, and that he would discuss the matter further with [ ]

Chairman  
COMIREX MC&G Working Group

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